Ethnobotanical Classification in Lisu:

Data Collection and Management

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Presentation Outline

- 1. Introduction
  - Aims of the project.
  - Background information on ethnobotany, folk taxonomy and the Lisu people and culture.
- 2. Data collection
  - Description of where and how data was collected.
- 3. Data management
  - Explores the methods used to manage the plant data collected and its analysis.
- 4. Project outcomes
- 5. Conclusions

1.1 Introduction: Aims of Project

- **Data collection:** To collect plant names and uses in Lisu, take specimens to be identified for their scientific species.

- **Data analysis:** To identify the folk taxonomy used in Lisu plant naming (see Berlin 1992) and also to find similar semantic groupings from the translated names.

- **Data use:** To conserve Lisu plant knowledge that is not getting passed down to younger generations in Thailand and provide a resource by returning the information back to communities and, potentially, archiving the material online.

1.2 Introduction: What is Ethnobotany?

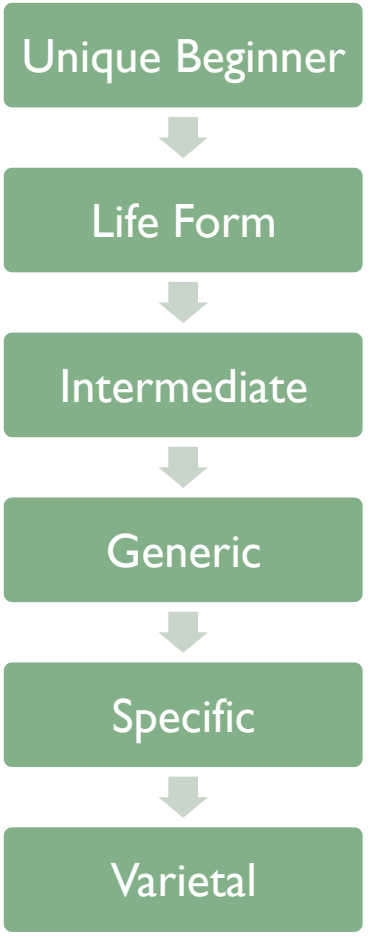
- Harshberger 1896 – 'use of plants by aboriginal peoples'
- Usually focuses on traditional plant knowledge
- *"Ethnobotany is considered to encompass all studies which concern the mutual relationships between plants and traditional peoples."* Cotton, 1996
- Various possible directions of study:
  - Searching for economically viable plants and medicines
  - Investigating folk knowledge and culture
  - Documenting traditional medicinal plant knowledge
  - Folk taxonomies…

1.3 Introduction: What is a Taxonomy?

- Example of scientific taxonomy:
  - E.g. Sunflower (*Helianthus annuus*)

"A sunflower". Licensed under Public Domain via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:A_sunflower.jpg#mediaviewer/File:A_sunflower.jpg

1.4 Introduction: Folk Taxonomic Hierarchy from Brent Berlin (1992)



Plant kingdom

Tree/vine/grass etc.

Covert/hidden categories, possibly unnamed

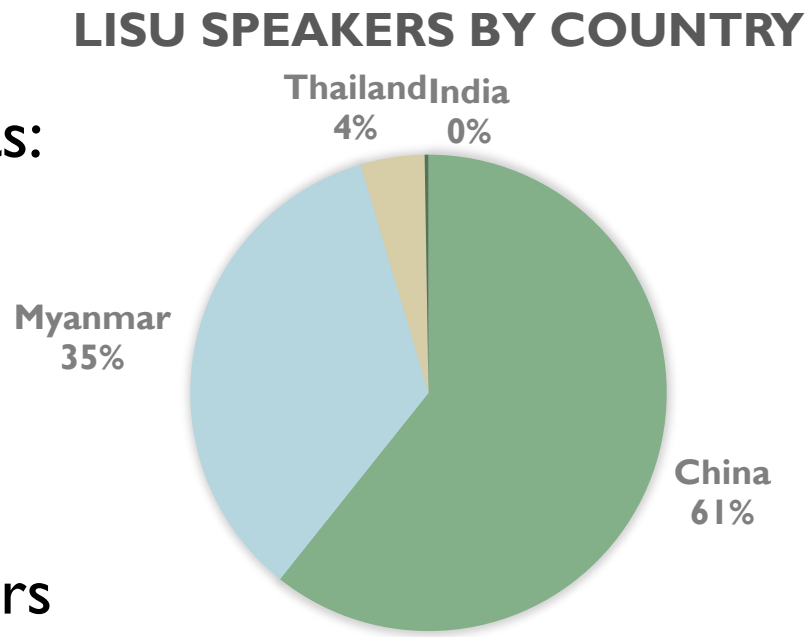
Most commonly known and used name e.g. corn

E.g. black corn, red corn, ancient corn

E.g. black ancient corn, red ancient corn

1.5 Introduction: Lisu People & Language

- Tonal language: Tibeto-Burman, Burmic branch, Ngwi group
- 3 main (somewhat) mutually intelligible dialects:
  - Southern, Central, Northern
- 2 main scripts in use:
  - Fraser script (used here)
  - Chinese script based on pinyin
- More than 1 million speakers
  - Some are literate in a Lisu script but many are not.
- Traditional oral plant knowledge at risk of being lost.



2.1 Data Collection: Field Sites

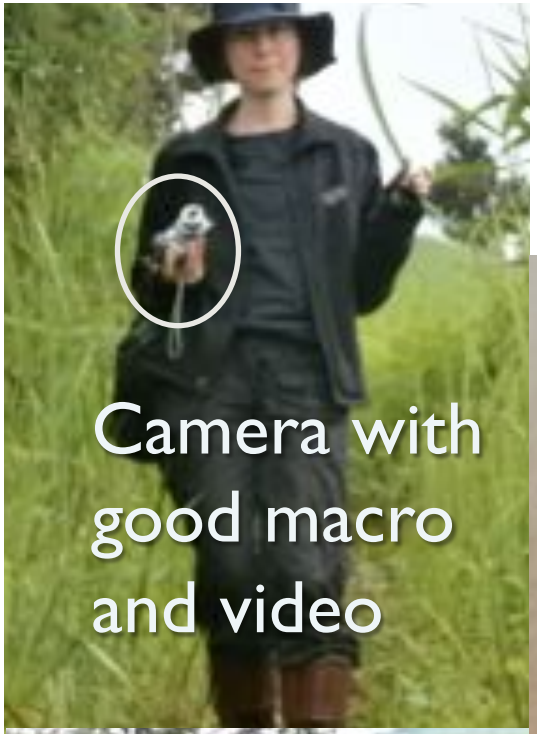
2.2 Data Collection: Field site 1, Doi Lan

2.3 Data Collection: Field site 1, Doi Lan

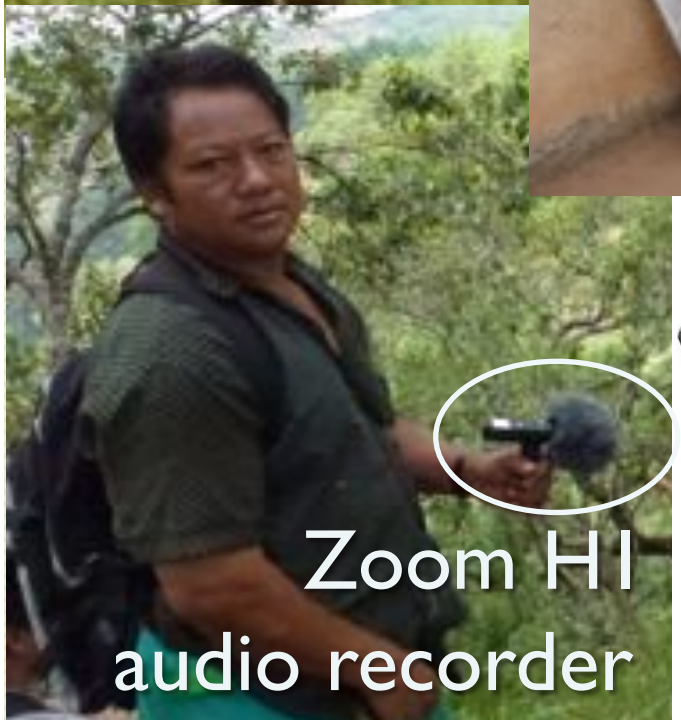
2.4 Data Collection: Field site 2, Khun Khong

2.5 Data Collection: Field site 2, Khun Khong

2.6 Data Collection: Equipment



← Plant press



GPS →

2.7 Data Collection - Methodology

- Informal walks around the villages
- Recorded Lisu plant names and uses
- Took notes on all information (including botanical)
- Took photographs
- Pressed and dried samples of the specimens
- Recorded GPS co-ordinates

And later:

- Used dried plant samples and plant photos already collected with villagers to do plant sorting activities to find folk taxonomic categories
  - e.g. 'What kind of plant is this?' for life form categories.

2.8 Data Collection: Plant Sorting

2.9 Data Collection: Challenges

- **Methodological** – difficult to do all things at once in the field to obtain good quality:
  - Hand written notes on location, appearance, uses etc.
  - Sound recordings of plant name and use while walking around the fields/forest (had to re-do some later)
  - 3 specimen samples for each plant to be put in plant press
  - Photos of each plant – in situ and close-ups
  - Video – one task too many

- **Translation issues**:
  - Translators' limited knowledge of English
  - Very limited opportunities to learn more than basic Lisu
  - Some knowledge of Thai but some Lisu speakers can't speak Thai

3.1 Data Management: Plant Specimens

- 308 voucher specimens (most including 2 duplicates) collected and dried:
  - Collected at the same time as the recorded plant names and uses.
  - Currently being prepared to be absorbed into LTU herbarium.
  - Duplicate set left with Chiang Mai University.
  - Labels to be made using the information from master spreadsheet.
  - Hopeful of being able to digitise collection once mounting and labelling is complete.

3.2 Data Management: Example

ʌW. XՈ., F..

/ŋwɑ^{55} ʃɨ^{33} tsɑ̲^{33}/

'fish die vine'

English name: 'Tuba root'

Scientific name: *Millettia pachycarpa* Bth.

Photos courtesy of Prateep Panyadee.

3.3 Data Management: Master Spreadsheet

- Collection details

	A	B	C	D
1	**List number**	**Village**	**Collection date**	**Specimen number**
2	454	KK	28/05/2013	180

- Plant use information

E	F
Description/use	**Method of preparation/use**
Used for stunning (or killing?) fish in order to catch them (although the Lisu in Thailand don't eat much fish...) and for lice in the hair. Not consumed - may be a poison for humans.	Put it in the water and the fish around will 'die' - but will wake up later. Take the root then flatten with a hammer and put in the water. It puts the fish to sleep, then they wake up after half an hour. It's also good for lice - pound the leaves until they are soft then put (massage?) into the hair.

3.4 Data Management: Master Spreadsheet

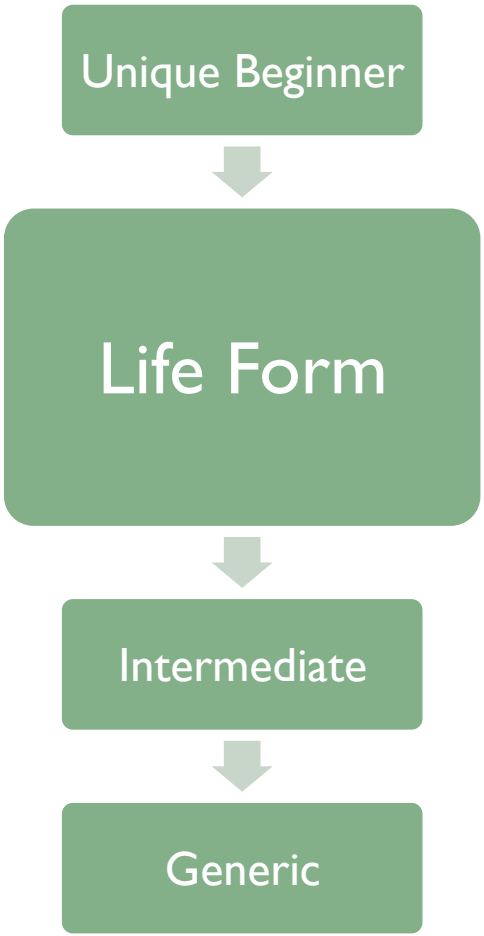
- Linguistic information

G	H	I	J	K
Lisu name - Lisu script	**Phonemics**	**Lisu literal translation**	**English Name**	**Thai Name**
ʌW. XՈ., F..	/ŋwɑ^{55} ʃi^{33} tsɑ̲^{33}/	ʌW. = FISH XՈ.,=DIE/DEAD F..=VINE/CREEPER	Tuba root	

- Botanical information

L	M	N	O	P	Q
Family	**Species (or Genus)**	**GPS N**	**GPS E**	**Elevation**	**Photo**
Leguminosae, Papilionoideae	*Millettia pachycarpa* Bth.	19.50674	98.80318	1162	048-51 & 289 from 29/5

3.5 Data Management: Recap of Folk Taxonomy Hierarchy



Plant kingdom (there isn't actually a universally used word for this in Lisu)

Tree/vine/grass etc.

Covert/hidden categories, possibly unnamed

Most commonly known and used name = the Lisu name we saw of ΛW. XՈ., F..

3.6 Data Management: Sorting Spreadsheets

- 'Folk category' sorting spreadsheet
  - Table shows data for life form as given by participants: tree, vine, weed etc.
  - More sheets with further information from plant sorting activities – searching for 'intermediate'/unnamed categories

A	B	C	D	E	F	G	H
Spec no.	Species	Lisu	ZI., (TREE)	F.. (VINE)	MO; (WEED)	PO.. (SHRUB)	dY: (LEAF)
176	*Setaria parviflora* (Poir.) Kerg.	XΛ., ∃I: MO;			x		
177	*Cyperus cyperoides* (L.) O.K.	A.-8.-X, MO;			x		
178	*Bidens pilosa* L.	MO; 8'L.			x		
179	*Solanum nigrum* L.	A.-PO-LY	x				
180	***Millettia pachycarpa* Bth.**	**AW. XΛ., F..**		**x**			
181	*Tacca chantrieri* Andre	ΣO,-KE.. L, dY:				x	x
182	*Curculigo latifolia* Dry. ex W.T. Ait. var. latifolia	TΠ.,-T; dY:				x	x
183	*Sambucus javanica* Reinw. ex Bl. ssp. javanica	8I, W:-L:	x				
184	*Lobelia nummularia* Lamarck	O.-P. TI. TI.		?	x		
185	*Paederia pallida* Craib	∃I: ∃∃:-N3.. F		x			
186	*Phoebe lanceolata* (Nees) Nees	XY.. ZI.,	x				
187	*Schima wallichii* (DC.) Korth.	VI-H'L.. ZI.,	x				
188	*Rhus chinensis* Mill. var. *chinensis*	8I:-M. ZI.,	x				

3.7 Data Management: Sorting Spreadsheets

- Semantic sorting spreadsheet
  - Lists Lisu plant names, uses and translated name meanings.
  - Aim is to categorise plant name metaphors and metonymy according to similarities (based on Turpin 2013).

Specimen	Description/use	Lisu name - Lisu script	Lisu literal translation	Property of the plant inc. Taste, size, habitat	Human use/effect on human	Human body part	Family/relationship/ clan name	Looks like inanimate object	References human but unclear why	Human use wrt animal	How an animal looks/ animal body part	Named after a sound	What an animal does with it/ effect on an animal	References animal but unclear why	Reference s a myth
180	fish killing plant	AW. XՈ, F..	AW. = FISH XՈ, = DIE/DEAD F..=VINE/CREEPER							x					
2	Use the young leaves for high blood pressure	XY.. ꓨO.. ZI,	XY.. = AROMATIC ꓨO.. ZI, = MEDICINE	x	x										
18	'Chicken brain plant' - produces jungle fruit that looks like small hazelnuts except you can't eat it - poison. It is used for the local deer-like creatures 'La Mang' in Thai, to lure them to the tree when the nuts fall - wait near the tree to catch or shoot them.	A. Y. WO. N'L ZI,	A. Y.= CHICKEN WO. N'L=BRAIN ZI,= TREE								x				

3.8 Data Management: Sorting Spreadsheets

- Semantic Sorting Categories:
  - Property of the plant e.g. taste, appearance
  - Human use/effect on a human
  - Human use with respect to an animal
  - Animal use/effect on an animal
  - Human body part metaphor
  - Animal body part metaphor (many of these!)
  - Family relationship/clan name
  - Inanimate object metaphor
  - Refers to a sound
  - Refers to a myth

3.9 Data Management: Translation & Transcription

- Plant stories and categorisation discussions have been translated and some have transcribed for the purpose of returning information to the community.

VI,, HT ZI,, ⊥I: M,, JO,,-=
house scatter tree one CLF exist DEC
There is a thing called Hiiherdzi (the tree *Scima waliichii*)

ƌO,, P. ☒ NYI: M,, JO,, -ı MI-ヽ YI; T. CY,- JO:=
man two CLF exist and sleep STAY CONT DEC QUOTE
There were two men, and they were sleeping, it is said.

A. ⊥E,, BV- NY ƌO,, P. ☒ ⊥I: W: M,, ⊥I: NYI,, ⊥I: NYI,, YI. MO: GW: A: XT. GW-=
that say TOP man one CLF NMZR one day one day he song very sing
So then one man sang a lot every day.

⊥I: NYI-, ⊥I: NYI-, MO: GW: GW-ヽ YI. XY; JY KU.-=
one day one day song sing. he longing skillful DEC
He sang every day, he was skillful at longing for someone.

4.1 Project Outcomes

- **Investigation of folk botanical categories** in Lisu has found that some categories do correspond with Brent Berlin's (1992) taxonomy while some do not.
  - Important for typological, cross-cultural comparisons.
- **Semantic categorisation of the names** has been done, where the plant names have been found to include a significant focus on animal body part metaphors, practical uses and a plant's effect on animals or humans.
- **Collected information can now be collated** and will be made available for the communites to use – work in progress.

4.2 Project Outcomes: Future

- **Potential for botanically oriented investigation**
  - The data provides enough information to investigate some botanically oriented research questions in addition to the linguistic ones.
- **Archiving**
  - All parts of the data would need to be collated for each individual plant/text and uploaded to an appropriate archive.
- **Returning to community**
  - New recordings and translations have been made to facilitate this in early 2015.
  - Return in a book/cd/dvd… or an app?
- **Resource materials**
  - Potential for use as a language/plant knowledge resource for Lisu communities.

5. Conclusions

- Lots of data collected even in a relatively small-scale project.
- A team, rather than an individual, would be helpful to get really good quality information in all regards, especially to be able to add in video recording consistently.
- There remains many further possibilities for the use of the data collected in this project.

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THANK YOU!